

Application No. 10/809,679  
February 1, 2007  
Reply to the Office Action dated September 5, 2006  
Page 3 of 19

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claim 1 (currently amended): A handling device for electronic chip components, comprising:

an accommodating device having a plurality of cavities ~~for putting~~ arranged to put electronic chip components thereinto; and

a feeder ~~for supplying~~ arranged to supply the electronic chip components to the accommodating device; wherein

~~the feeder includes a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section arranged to feed the electronic components into the plurality of cavities;~~

~~the accommodating device can be~~ ~~is~~ arranged to moved and such that at least two of the plurality of cavities are simultaneously disposed at a location ~~in~~ close proximity to the ~~feeding section of the~~ feeder, and the electronic chip components are put directly into the cavities from the ~~feeding section of the~~ feeder by performing providing a suction operation in the cavities ~~from a cavity side.~~

Claim 2 (original): A handling device for electronic chip components as claimed in claim 1, wherein the feeder is a circulatory feeder in which the electronic chip components can be moved freely with any orientation thereof and the electronic chip components can be put into the cavities in a free order.

Claim 3 (original): A handling device for electronic chip components as claimed in claim 1, wherein, when the electronic chip components are put into the cavities from

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 4 of 19

the feeder, the electronic chip components are directly put into the cavities without being moved along a main surface of the accommodating device.

Claim 4 (original): A handling device for electronic chip components as claimed in claim 1, wherein the accommodating device is a rotating disk-shaped device having a main surface, and the cavities are disposed so as to be located close to the feeder as a result of rotation thereof.

Claim 5 (original): A handling device for electronic chip components as claimed in claim 4, wherein the accommodating device is disposed so that its rotation axis is in a substantially horizontal position.

Claim 6 (original): A handling device for electronic chip components as claimed in claim 4, wherein the transport surface of the feeder has a descending inclination relative to the accommodating device and the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 7 (original): A handling device for electronic chip components as claimed in claim 4, wherein the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 8 (currently amended): A handling device for electronic chip components as claimed in claim 1, wherein end portions of the electronic chip components put or waiting to be put into the cavities of the accommodating device protrude to the transport passage-surface of the feeder.

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 5 of 19

Claim 9 (currently amended): A handling device for electronic chip components as claimed in claim 1, further comprising ~~a dispersing device~~an obstacle for dispersingarranged to dispense the electronic chip components being transported by the feeder such that a density of electronic chip components near the cavities of the accommodating device ~~may be made a target~~has a predetermined value.

Claim 10 (original): A handling device for electronic chip components as claimed in claim 1, wherein electrical characteristics of the electronic chip components put into the cavities are measured.

Claim 11 (currently amended): A handling device for electronic chip components, comprising:

an accommodating device having a plurality of cavities ~~for putting~~arranged to put electronic chip components thereinto; and

a feeder ~~for supplying~~arranged to supply the electronic chip components to the accommodating device; wherein

the feeder includes a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section arranged to feed the electronic components into the plurality of cavities;

the accommodating device can be~~is~~arranged to moved and such that at least one of the cavities is successively disposed at a location which is ~~the closest in close proximity to the feeding section of~~ the feeder;

on a~~the~~transport surface of the feeder, the electronic chip components are supported on only one side surface thereof, without fixing an orientation of the~~a~~ length direction of the electronic chip components; and

the electronic chip components are put~~directly~~into the cavities from the feeding section of the feeder by performing~~providing~~a suction operation in the cavities from a cavity side.

Application No. 10/809,679  
February 1, 2007  
Reply to the Office Action dated September 5, 2006  
Page 6 of 19

Claim 12 (original): A handling device for electronic chip components as claimed in claim 11, wherein the feeder is a circulatory feeder in which the electronic chip components can be moved freely with any orientation thereof and the electronic chip components can be put into the cavities in a free order.

Claim 13 (original): A handling device for electronic chip components as claimed in claim 11, wherein, when the electronic chip components are put into the cavities from the feeder, the electronic chip components are directly put into the cavities without being moved along a main surface of the accommodating device.

Claim 14 (original): A handling device for electronic chip components as claimed in claim 11, wherein the accommodating device is a rotating disk-shaped device having a main surface, and the cavities are disposed so as to be located close to the feeder as a result of rotation thereof.

Claim 15 (original): A handling device for electronic chip components as claimed in claim 14, wherein the accommodating device is disposed so that its rotation axis is in a substantially horizontal position.

Claim 16 (original): A handling device for electronic chip components as claimed in claim 14, wherein the transport surface of the feeder has a descending inclination relative to the accommodating device and the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 17 (original): A handling device for electronic chip components as claimed in claim 14, wherein the main surface of the accommodating device is inclined such that

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 7 of 19

an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 18 (currently amended): A handling device for electronic chip components as claimed in claim 14, wherein end portions of the electronic chip components put or waiting to be put into the cavities of the accommodating device protrude to the transport passage-surface of the feeder.

Claim 19 (currently amended): A handling device for electronic chip components as claimed in claim 11, further comprising a dispersing device an obstacle arranged to disperse for dispersing the electronic chip components being transported by the feeder such that a density of electronic chip components near the cavities of the accommodating device may be made a target has a predetermined value.

Claim 20 (original): A handling device for electronic chip components as claimed in claim 11, wherein electrical characteristics of the electronic chip components put into the cavities are measured.

Claim 21 (currently amended): A handling device for electronic chip components, comprising:

an accommodating device having a plurality of cavities for putting arranged to put electronic chip components thereinto; and

a feeder for supplying arranged to supply the electronic chip components to the accommodating device; wherein

the feeder includes a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section arranged to feed the electronic components into the plurality of cavities;

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 8 of 19

the accommodating device ~~can be~~ is arranged to moved and such that at least one of the cavities is successively disposed at a location which ~~is the closest~~ is in close proximity to the feeding section of the feeder;

on ~~a~~ the transport surface of the feeder, the electronic chip components are freely oriented in ~~the~~ a width direction and ~~the~~ a thickness direction thereof and are supported on only one side surface thereof, without fixing an orientation of ~~the~~ a length direction of the electronic chip components; and

the electronic chip components are put directly into the cavities from the feeding section of the feeder by ~~performing~~ providing a suction operation in the cavities from a cavity side.

Claim 22 (original): A handling device for electronic chip components as claimed in claim 21, wherein the feeder is a circulatory feeder in which the electronic chip components can be moved freely with any orientation thereof and the electronic chip components can be put into the cavities in a free order.

Claim 23 (original): A handling device for electronic chip components as claimed in claim 21, wherein, when the electronic chip components are put into the cavities from the feeder, the electronic chip components are directly put into the cavities without being moved along a main surface of the accommodating device.

Claim 24 (original): A handling device for electronic chip components as claimed in claim 21, wherein the accommodating device is a rotating disk-shaped device having a main surface, and the cavities are disposed so as to be located close to the feeder as a result of rotation thereof.

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 9 of 19

Claim 25 (original): A handling device for electronic chip components as claimed in claim 24, wherein the accommodating device is disposed so that its rotation axis is in a substantially horizontal position.

Claim 26 (original): A handling device for electronic chip components as claimed in claim 24, wherein the transport surface of the feeder has a descending inclination relative to the accommodating device and the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 27 (original): A handling device for electronic chip components as claimed in claim 24, wherein the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 28 (currently amended): A handling device for electronic chip components as claimed in claim 21, wherein end portions of the electronic chip components put or waiting to be put into the cavities of the accommodating device protrude to the transport passage surface of the feeder.

Claim 29 (currently amended): A handling device for electronic chip components as claimed in claim 21, further comprising ~~a dispersing device~~an obstacle arranged to disperse ~~for dispersing~~ the electronic chip components being transported by the feeder such that a density of electronic chip components near the cavities of the accommodating device ~~may be made a target~~has a desired value.

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 10 of 19

Claim 30 (original): A handling device for electronic chip components as claimed in claim 21, wherein electrical characteristics of the electronic chip components put into the cavities are measured.

Claim 31 (currently amended): A handling device for electronic chip components, comprising:

an accommodating device having a plurality of cavities ~~for putting~~ arranged to put electronic chip components thereinto; and

a feeder ~~for supplying~~ arranged to supply the electronic chip components to the accommodating device; wherein

the feeder includes a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section arranged to feed the electronic components into the plurality of cavities;

~~the accommodating device can be is arranged to moved and such that at least one of the cavities is successively disposed at a location close in close proximity to the feeding section of the feeder, and the electronic chip components are made to float in air by a floating unit of the feeder and, by performing providing a suction operation in the cavities from a cavity side, the electronic chip components in the air are put directly into the cavities.~~

Claim 32 (original): A handling device for electronic chip components as claimed in claim 31, wherein the feeder is a circulatory feeder in which the electronic chip components can be moved freely with any orientation thereof and the electronic chip components can be put into the cavities in a free order.

Claim 33 (original): A handling device for electronic chip components as claimed in claim 31, wherein, when the electronic chip components are put into the cavities from

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 11 of 19

the feeder, the electronic chip components are directly put into the cavities without being moved along a main surface of the accommodating device.

Claim 34 (original): A handling device for electronic chip components as claimed in claim 31, wherein the accommodating device is a rotating disk-shaped device having a main surface, and the cavities are disposed so as to be located close to the feeder as a result of rotation thereof.

Claim 35 (original): A handling device for electronic chip components as claimed in claim 34, wherein the accommodating device is disposed so that its rotation axis is in a substantially horizontal position.

Claim 36 (original): A handling device for electronic chip components as claimed in claim 34, wherein the transport surface of the feeder has a descending inclination relative to the accommodating device and the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 37 (original): A handling device for electronic chip components as claimed in claim 34, wherein the main surface of the accommodating device is inclined such that an angle between the main surface of the accommodating device and the transport surface of the feeder increases.

Claim 38 (currently amended): A handling device for electronic chip components as claimed in claim 31, wherein end portions of the electronic chip components put or waiting to be put into the cavities of the accommodating device protrude to the transport passage-surface of the feeder.

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 12 of 19

Claim 39 (original): A handling device for electronic chip components as claimed in claim 31, further comprising ~~a dispersing device~~an obstacle arranged to disperse for dispersing the electronic chip components being transported by the feeder such that a density of electronic chip components near the cavities of the accommodating device ~~may be made a target~~has a desired value.

Claim 40 (original): A handling device for electronic chip components as claimed in claim 31, wherein electrical characteristics of the electronic chip components put into the cavities are measured.

Claim 41 (currently amended): A handling device for electronic chip components comprising:

an accommodating device having a plurality of cavities ~~for putting~~arranged to put chip-type electronic components thereinto;

a transport portion ~~for transporting~~arranged to transport the electronic chip components to the cavities in the accommodating device;

a first suction block having a transport passage linked to the transport portion and ~~putting~~arranged to put the electronic chip components into the transport passage by a suction operation; ~~and~~

a feeder ~~for supplying~~arranged to supply the electronic chip components to a location ~~near~~in close proximity to an entrance of the transport passage of the suction block;

and a second suction block arranged to put the chip-type electronic components into the plurality of cavities by providing suction in the cavities from a cavity side; wherein

the feeder is a circulatory feeder in which the electronic chip components move freely with any orientation thereof in a free direction and the electronic chip components are supplied to the transport passage of the suction block in a free order.

Application No. 10/809,679  
February 1, 2007  
Reply to the Office Action dated September 5, 2006  
Page 13 of 19

Claim 42 (currently amended): A handling device for electronic chip components, comprising:

an accommodating device having a plurality of cavities ~~for putting~~arranged to put electronic chip components thereinto; and

a feeder ~~for supplying~~arranged to supply the electronic chip components to the accommodating device; wherein

the feeder includes a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section in the feeder arranged to feed the electronic components into the plurality of cavities;

~~the accommodating device can be~~s arranged to moved and such that at least one of the cavities is successively disposed at a location which is ~~the closest in close proximity~~ to the feeder;

the feeder is a circulatory feeder in which the electronic chip components ~~are move~~ freely with any orientation thereof and the electronic chip components are supplied to the cavities in a free order; and

~~by performing a suction operation in the cavities,~~ the electronic chip components are directly put into the cavities from the feeder without being moved along ~~the a~~ main surface of the accommodating device by providing suction in the cavities from a cavity side.

Claim 43 (currently amended): A handling method for electronic chip components, comprising the steps of:

providing an accommodating device having a plurality of cavities;

providing a feeder arranged to supply the electronic components to the accommodating device including a transport surface arranged to transport the electronic chip components towards the plurality of cavities, and a feeding section in the feeder arranged to feed the electronic components into the plurality of cavities; and

Application No. 10/809,679

February 1, 2007

Reply to the Office Action dated September 5, 2006

Page 14 of 19

putting electronic chip components into the accommodating device from a  
~~the feeder for supplying the electronic chip components~~; wherein

by performing a suction operation in at least two of the cavities  
simultaneously disposed at a location in close proximity to the feeder, the electronic  
chip components are put directly into the cavities from the feeder.

Claim 44 (currently amended): A handling method for electronic chip  
components, comprising the steps of:

providing an accommodating device having a plurality of cavities;  
providing a feeder arranged to supply the electronic components to the  
accommodating device including a transport surface arranged to transport the electronic  
chip components towards the plurality of cavities, and a feeding section arranged to  
feed the electronic components into the plurality of cavities; and

putting electronic chip components into the accommodating device from a  
~~the feeder for supplying the electronic chip components~~; wherein

by performing a suction operation in at least one cavity disposed at a  
location which is ~~the closest~~in close proximity to the feeder, the electronic chip  
components are ~~directly~~ put directly into the cavities from the feeder without being  
moved along ~~the~~a main surface of the accommodating device.